CLAIMS

Having thus described the invention, what is claimed is:

1. A bonded composite, comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material; and

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

(c) as ones of said bond elements, a first sub-array of longitudinally-oriented separate and distinct stress receptor elements disposed proximate the side edges of the bond pattern, and spaced at first distances from each other along the length of the bond pattern,

(d) as ones of said bond elements, a second sub-array of longitudinally-oriented separate and distinct transfer and dissipation elements disposed inwardly of the side edges and inwardly of the stress receptor elements, and at second distances from the stress receptor elements less than the spacing of respective ones of the stress receptor elements from each other.

2. A bonded composite as in Claim 1, respective transfer and dissipation elements having first ends disposed on the interior portion of the bond pattern, and extending to second ends adjacent the side edges of the bond pattern between respective ones of said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly to the interior portion of the bond pattern, and dissipating such stresses at the interior portion of the bond pattern.

3. A bonded composite as in Claim 1 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

4. A bonded composite as in Claim 1 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

5. A bonded composite as in Claim 1 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

6. A bonded composite as in Claim 1 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior portion of the web.

7. A bonded composite, comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material; and

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern, the bond pattern having regularly repeating bond segments, each repeating bond segment comprising a defined set of bond elements spaced according to a generally fixed segment pattern,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form, as the repeating bond segments, an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other, ones of said transfer and dissipation elements extending across the width of said bond pattern, from loci proximate the side edges, at angles of between about 10 degrees and about 65 degrees with respect to the longitudinal axis,

a bond width being defined by the width of the pattern perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths being correspondingly defined along the bond width, the composite of the bond element contact lengths along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length, the composite contact length at a given point along the length of the pattern varying from the average composite contact length by no more than about 13 percent.

8. A bonded composite as in Claim 7, the composite contact length, at any point along the length of the pattern, varying from the average composite contact length by no more than about 10 percent.

9. A bonded composite as in Claim 7, the composite contact length, at any point along the length of the pattern, varying from the average composite contact length by no more than about 8 percent.

10. A bonded composite as in Claim 7, said bond pattern comprising

(i) as first ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length of the bond pattern, proximate the side edges of the bond pattern, and

(ii) as second ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective transfer and dissipation elements having spaced first and second ends, and legs extending from the respective ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs between said stress receptor elements.

11. A bonded composite as in Claim 10, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the

corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 70 percent, up to 100 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

12. A bonded composite as in Claim 10, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 75 percent, up to 90 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

13. A bonded composite as in Claim 10, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 80 percent, up to 85 percent, of the width of the bond pattern, whereby the outwardly-

disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

14. A bonded composite as in Claim 7 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

15. A bonded composite as in Claim 7 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

16. A bonded composite as in Claim 7 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

17. A bonded composite as in Claim 7 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior of the web.

18. A bonded composite as in Claim 7 wherein ones of said transfer and dissipation elements extend from loci proximate the side edges to loci proximate the longitudinal axis.

19. A bonded composite as in Claim 7 wherein increases and decreases in power distribution across the width of the bond pattern define variations in composite contact lengths as compared to the average composite contact length for a given bond pattern for at least a complete circumferential rotation of a rotary anvil, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13 percent of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

20. A bonded composite, comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material; and

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

(c) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(d) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements

disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having spaced first and second ends, and legs extending from the respective first and second ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs, joined to each other, between said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern.

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21. A bonded composite as in Claim 20, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 70 percent, up to 100 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

22. A bonded composite as in Claim 20, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary

contact line spanning the width of the bond pattern represents at least about 75 percent, up to 90 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

23. A bonded composite as in Claim 20, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 80 percent, up to 85 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

24. A bonded composite as in Claim 20 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

25. A bonded composite as in Claim 20 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

26. A bonded composite as in Claim 20 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material

selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

27. A bonded composite as in Claim 20 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior of the web.

28. A bonded composite as in Claim 20, the first and second ends of the transfer and dissipation elements dissipating the stresses primarily on the interior of the bond pattern.

29. A bonded composite as in Claim 20 wherein ones of said transfer and dissipation elements extend from loci proximate the side edges to loci proximate the longitudinal axis.

30. A bonded composite, comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material; and

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

(c) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(d) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements spaced along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having first ends disposed on the interior of the bond pattern, said respective transfer and dissipation elements extending to second ends adjacent the side edges of the bond pattern between respective ones of said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern, and dissipating such stresses on the interior of the bond pattern.

31. A bonded composite as in Claim 30 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

32. A bonded composite as in Claim 30 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

33. A bonded composite as in Claim 30 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and

polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

34. A bonded composite as in Claim 30 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior of the web.

35. A bonded composite, comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material; and

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern, the bond pattern having regularly repeating bond segments, each repeating bond segment comprising a defined set of bond elements spaced according to a generally fixed segment pattern,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form, as the repeating bond segments, an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

a bond width being defined by the width of the pattern perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths being correspondingly defined along the bond width, the composite of the bond element contact lengths along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length,

a steady power distribution across the width of the bond pattern defining minimum variations in composite contact lengths as compared to the average composite contact length for the bond pattern for at least a complete circumferential rotation of a rotary anvil reflecting the bond pattern, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13 percent of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

36. A bonded composite as in Claim 35, the composite contact length, at any point along the length of the pattern, varying from the average composite contact length by no more than about 10 percent.

37. A bonded composite as in Claim 35, said bond pattern comprising

(i) as first ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length of the bond pattern, proximate the side edges of the bond pattern, and

(ii) as second ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective transfer and dissipation

elements having spaced first and second ends, and legs extending from the respective ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs between said stress receptor elements.

38. A bonded composite as in Claim 37, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 70 percent, up to 100 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

39. A bonded composite as in Claim 37, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 75 percent, up to 90 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

40. A bonded composite as in Claim 35 wherein ones of said transfer and dissipation elements extend from loci proximate the side edges to loci proximate the longitudinal axis.

41. An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material;

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern; and

(c) an absorbent core disposed adjacent at least one of said first thin-section element and said second thin-section element,

the bond pattern having a pattern length including a central longitudinal axis, and a pattern width represented by first and second side edges of the bond pattern, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other, ones of said bond elements extending across the width of said bond pattern, from loci proximate the side edges at angles of between about 10 degrees and about 65 degrees with respect to the longitudinal axis,

a bond width being defined across the width of the bond pattern perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths being correspondingly defined along the bond width, the composite of the bond element contact lengths along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length, the composite contact length at a given point along the length of the pattern varying from the average composite contact length by no more than about 13 percent.

42. An absorbent article as in Claim 41, the composite contact length, at any point along the length of the pattern, varying from the average composite contact length by no more than about 10 percent.

43. An absorbent article as in Claim 41, the composite contact length at any point along the length of the pattern, varying from the average composite contact length by no more than about 8 percent.

44. An absorbent article as in Claim 41, said bond pattern comprising

(i) as first ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length of the bond pattern, proximate the side edges of the bond pattern, and

(ii) as second ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective transfer and dissipation elements having spaced first and second ends, and legs extending from the

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respective ends toward each other ~~and outwardly~~ of the longitudinal axis along the length ~~of the~~ bond pattern to outwardly-disposed portions of ~~said legs~~ between said stress receptor elements.

45. An absorbent article as in Claim 44, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 70 percent, up to 100 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

46. An absorbent article as in Claim 44, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 75 percent, up to 90 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

13 47. An absorbent article as in Claim 44, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 80 percent, up to 85 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

14 48. An absorbent article as in Claim 41 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

15 49. An absorbent article as in Claim 41 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

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17 50. An absorbent article as in Claim 41 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior of the web.

51. An absorbent article as in Claim 41 wherein said first thin-section element comprises an outer cover, wherein said second thin-section element comprises a body side liner, and wherein at least one of said outer cover and said body side liner

comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and mixtures, copolymers, and blends of such polymeric materials.

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52. An absorbent article as in Claim 41 wherein said second thin-section element comprises a body side liner and wherein said body side liner comprises material selected from the group consisting of porous foams, reticulated foams, apertured polymeric films, polymeric fibers, and natural fibers.

53. An absorbent article as in Claim 51 wherein said body side liner comprises one or more of a mixture of materials selected from the group consisting of porous foams, reticulated foams, apertured polymeric films, polymeric fibers, and natural fibers.

54. An absorbent article as in Claim 41, the length of said bond pattern extending from the front portion of said absorbent article to the rear portion of said absorbent article.

55. An absorbent article as in Claim 41 wherein the crotch portion of said absorbent article is devoid of said bond pattern.

56. An absorbent article as in Claim 41, the width of said bond pattern between the first and second side edges being about 4 millimeters to about 20 millimeters.

57. An absorbent article as in Claim 41, the width of said bond pattern between the first and second side edges being about 5 millimeters to about 14 millimeters.

58. An absorbent article as in Claim 41 wherein said absorbent article comprises a feminine hygiene article.

59. An absorbent article as in Claim 41 wherein said absorbent article comprises a diaper.

60. An absorbent article as in Claim 41 wherein said absorbent article comprises an adult incontinence product.

61. An absorbent article as in Claim 41 wherein ones of said transfer and dissipation elements extend from loci proximate the side edges to loci proximate the longitudinal axis.

62. An absorbent article as in Claim 41 wherein increases and decreases in power distribution across the width of the bond pattern can be defined by variations in composite contact lengths as compared to the average composite contact length for a given bond pattern for at least a complete circumferential rotation of a rotary anvil, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13% of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

63. An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material;

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern; and

(c) an absorbent core disposed adjacent at least one of said first thin-section element and said second thin-section element,

the bond pattern having a pattern length including a central longitudinal axis, and a pattern width represented by first and second side edges of the bond pattern, the side edges being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

(d) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(e) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having spaced first and second ends, and legs extending from the respective first and second ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs between said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern.

64. An absorbent article as in Claim 63, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 70 percent, up to 100 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

65. An absorbent article as in Claim 63, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 75 percent, up to 90 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

66. An absorbent article as in Claim 63, said stress receptor elements alternating along the length, and on opposing side edges, of the bond pattern, an imaginary contact line spanning the width of the bond pattern at a given locus along the length of the bond pattern which intersects a said stress receptor element on a

given side of the bond pattern, also including on the opposing side of the bond pattern, a said outwardly-disposed portion of a respective said leg of the corresponding transfer and dissipation element, such that the distance between distal ends of the most remote ones of the bond elements along the respective imaginary contact line spanning the width of the bond pattern represents at least about 80 percent, up to 85 percent, of the width of the bond pattern, whereby the outwardly-disposed portions of the respective said legs provide balancing support on opposing sides of the longitudinal axis from respective stress receptor elements or opposing transfer and dissipation elements during formation of the bond pattern.

67. An absorbent article as in Claim 63 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

68. An absorbent article as in Claim 63 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

69. An absorbent article as in Claim 63 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

70. An absorbent article as in Claim 63 wherein at least one of said first thin-section element and said second thin-section element comprises a fibrous web defining a multiplicity of randomly-spaced small openings extending from a major surface of the web into the interior of the web.

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71. An absorbent article as in Claim 63, the first and second ends of the transfer and dissipation elements dissipating the stresses primarily on the interior of the bond pattern.

26 72. An absorbent article as in Claim 63 wherein ones of said transfer and dissipation elements extend from loci proximate the side edges to loci proximate the longitudinal axis.

73. An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) as a first thin-section element, a first layer of thin-section sheet material;

(b) a second thin-section element bonded to the first thin-section element by bond elements defining a bond pattern; and

(c) an absorbent core disposed adjacent at least one of said first thin-section element and said second thin-section element,

the bond pattern having a pattern length, a pattern width represented by first and second side edges of the bond pattern, and a central longitudinal axis, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,

the bond pattern reflecting application of force urging the first and second thin-section elements toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second thin-section elements to each other,

(c) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(d) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements spaced along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having first ends disposed on the interior of the bond pattern, said respective transfer and dissipation elements extending to second ends adjacent the side edges of the bond pattern between respective ones of said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern, and dissipating such stresses on the interior of the bond pattern.

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74. An absorbent article as in Claim 73 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second thin-section elements.

75. An absorbent article as in Claim 73 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second thin-section elements.

76. An absorbent article as in Claim 73 wherein at least one of said first thin-section element and said second thin-section element comprises polymeric material selected from the group consisting of polyolefins including polyethylenes and polypropylenes, polyesters, and polyamides, and copolymers, mixtures, and blends of such polymeric materials.

77. An absorbent article as in Claim 73 wherein at least one of ~~said first thin-section~~ element and ~~said second thin-section element~~ comprises a fibrous web defining a ~~multiplicity~~ of randomly-spaced small openings extending from a major ~~surface~~ of the web into the interior of the web.